

nostrils, and in the external auditory meati. They were abundant on the head.

The exacerbation of the secondary fever on the twentieth day, and lasting four days, was due, I believe, to the absorption of poisons generated in the decomposing skin. As will be seen by the specimens presented (see p. 79), the upper layers of the infected integument tended to be thrown off *en masse*. On the buttocks and sides of the hips and backs of legs large surfaces presented a raw, moist, blistered appearance, with superficial ulceration. Many pocks, too, at this juncture lay in the skin, presenting in their centres a white, pus-like mass, resembling "the core of a small boil." They appeared indolent, no inflammatory action going on around them; the dorsal portion of each hand and forearm, the seat of the eczema, was one huge ulcer, presenting the appearance as of a burn of the second and third degree. While the skin was undergoing this decomposition, the normal musty small-pox odor was completely lost in the almost intolerable and indescribable stench, notwithstanding the free use of antiseptics and deodorant solutions.

The face presented a bloated, unrecognizable appearance, completely covered with a dense, rough, cracked mass of brown scab. These came slowly off, leaving little, if any, pitting. The only places on the body where pitting obtained were where the ulceration occurred. There was none from the portions of the body from which these patches were taken. Only a proportion of the pocks were umbilicated. This condition is shown in the pox in the thick patches presented (see p. 79), which were taken from the soles of the feet about the thirty-eighth day. They had been loose for some days.

*Pathology.*—The first point at which any manifestation of the eruption takes place, is in the lower layers of the rete malpighii, the attack being apparently on the young epithelial cells. The circumscribed congestion, with the dilated capillaries, is the beginning of the struggle. The sign is the macule. Under the peculiar action of the poison the cells of the lower layer of the rete malpighii undergo a necrotic change, the cells swelling up and becoming transformed into irregular opaque masses devoid of nuclei, and intracellular liquefaction occurring in the cells of the upper layer. This forms the papule. As the process continues the vacuoles increase in size by coalescence; they become invaded by lymph; the hard papule softens, its central redness fades, and it becomes transformed into a vesicle, the stroma between the vacuoles forming a reticulum (see diagram, p. 81). Many of the vesicles are umbilicated. This phenomena is said by some to be due to the presence of a hair-